# COTTON CHATS

DRAPER COMPANY, HOPEDALE, MASS.

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TRADE-MARK REG. U.S. PAT. OFF.

HOPEDALE, MASS.

NO. 137. MARCH, 1914.

# ABOUT TWENTY YEARS AGO

in the fall of 1894, we shipped the first Northrop Looms on a commercial order. We accepted our first order after long experiments involving an expenditure of a large amount of time and money. While we had reason to believe that our filling battery and warp stop-motion were sufficiently developed to be operative under mill conditions, it was with some anxiety that we followed the operation of these looms after placed in charge of the regular help.

Much to our surprise we found as time ran on that our special features of filling battery and warp stop-motion were better adapted to the problem of automatic weaving than were the other parts of the loom, including practically all of the moving parts and even the general design of the loom frame.

In the method followed by weavers on common looms, weaving was largely a question of skill of the individual and not one of mechanical certainty of operation

in the machine. When a bobbin ran out the shuttle was changed by the weaver. He perhaps ran his hand along the cloth at the point where the filling was introduced by the new shuttle; or he made some change in the let-back on the take-up; or another time did something in handling the lay, so that perfect goods might be produced and no blemish caused at the point where the filling was changed by introduction of a new shuttle. All this required education and long experience on the part of the weaver before he became an expert—if he ever did.

The automatic loom on the other hand had to change the filling and take care of these possible blemishes at the time of the change without the aid of any intelligence of the weaver. The advantage of the Northrop automatic loom in enabling the weaver to operate many more looms carried with it the necessity of doing away with skill and judgment of the weaver at the critical point when the bobbin was changed.

As this fact became more and more in evidence, our inventors and designers were given the problem of improving the loom itself as a weaving mechanism so that the character of the goods woven would be satisfactory, and that there would be no danger of thick and thin places or other imperfections at time of transfer of the filling bobbin.

Following this line our early models of looms were gradually abandoned; the let-off was improved with the invention of the Roper let-off, a modification of the old Bartlett let-off, but arranged to automatically take care of the difference between the full and empty beam.

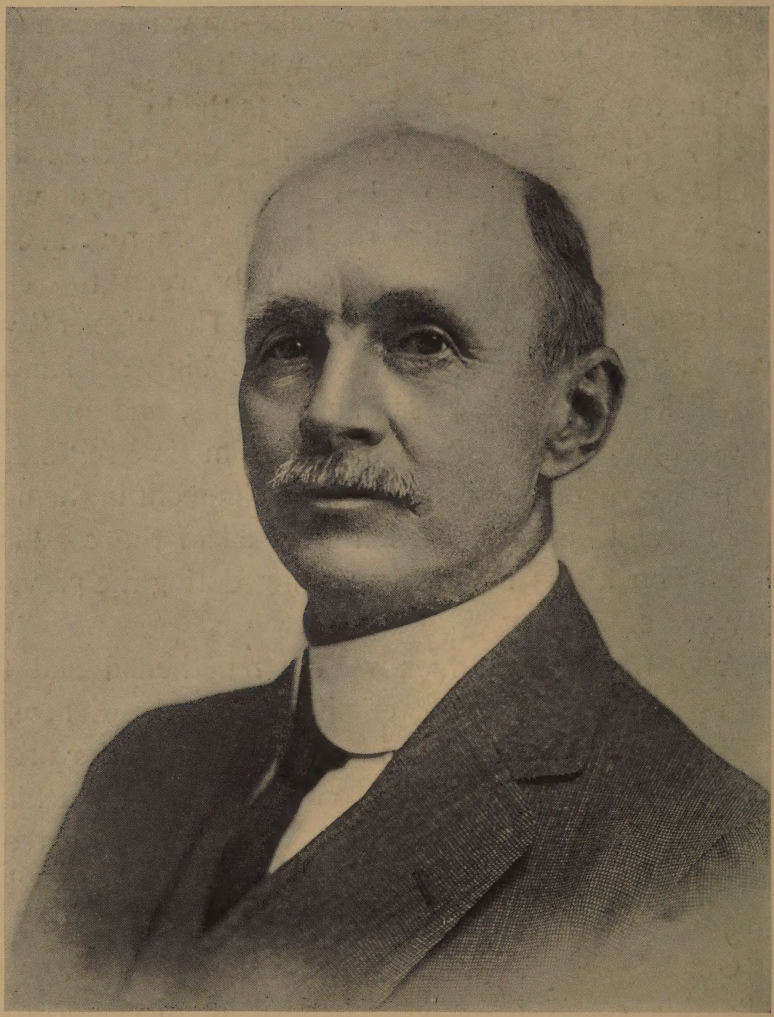
Improvements were made in the thin place preventer and in the vibrating whip-roll to meet the requirements of

various weights of goods. The take-up was replaced by the Northrop high roll take-up which gives cloth with much more uniform width and assists the loom temple in properly holding the goods during the cloth-making period. Modifications to admit of either gear or worm drive were developed; also the Nutting improvement to admit of increased length of cloth between the cloth making point and the take-up roll. The "feeler" was invented to match the pick when the bobbin was changed. New pick-motions, harness cam-motions, and overhead harness-motions were brought out from time to time, so that finally there had been more development in the older part of the loom construction than all of the combined changes on looms for plain weaving during the previous thirty years.

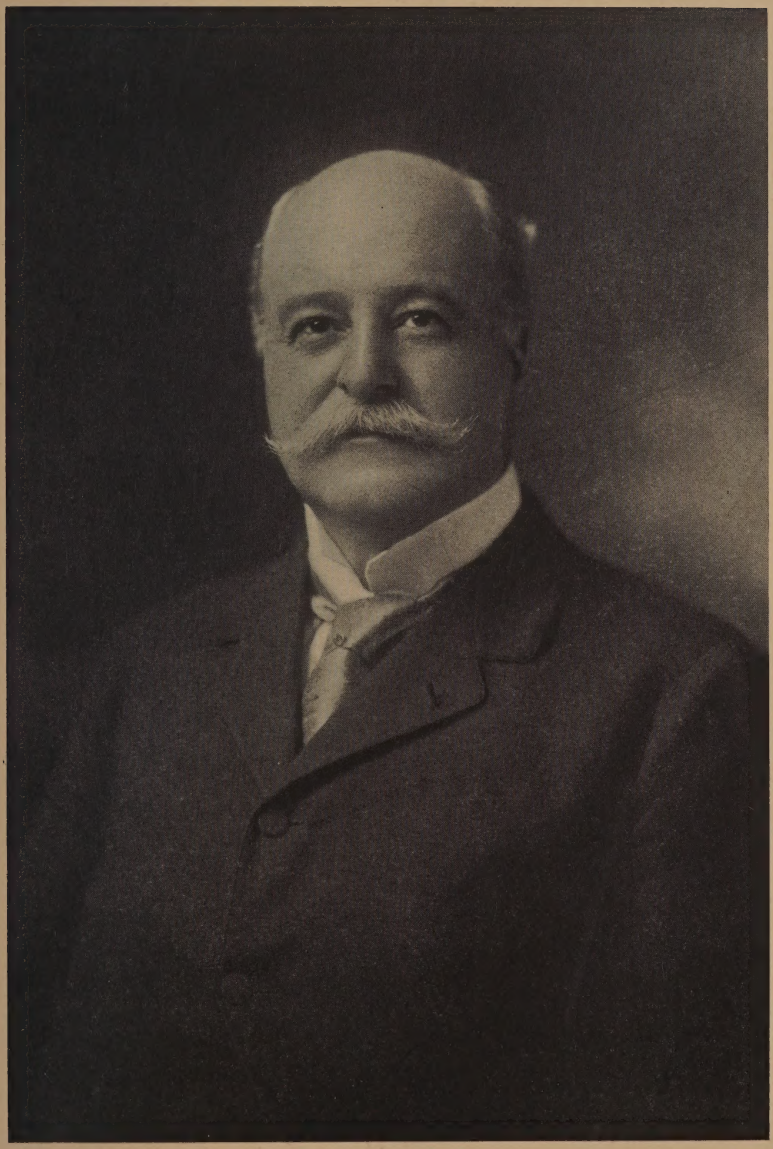
Also the loom frames were strengthened and the weight of the looms materially increased. Expensive machines were introduced in our works by the use of which all the joints of the loom frames were machined together, giving uniformity of construction and a degree of stability under weaving conditions never before found in looms made in this country.

Our latest development is the adoption of cut gears. While this called for a very large plant of gear cutting machinery it meant better running gears in the loom and ultimately more uniform and better cloth in the product of the mill.

With the above experience we are in a position to furnish the only automatic loom for weaving goods made with one shuttle with thoroughly modernized design and arranged to properly co-operate with the filling battery and warp stop-motion.

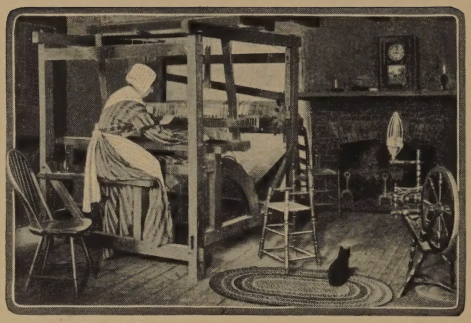


In our Cotton Chats of December 1910 we reproduced an old photograph of Mr. James H. Northrop and the early Northrop loom. At the request of several of our readers we take pleasure in presenting Mr. Northrop as he appears today. Mr. Northrop is still identified with our company.



EBEN S. DRAPER.

# COTTON CHATS



# DRAPER COMPANY

TRADE-MARK REG. U.S. PAT. OFF.

HOPEDALE, MASS.

NO. 138. APRIL, 1914.

At a meeting of the Directors of the Draper Company, held April twenty-first, the following report was made by the committee appointed April fourteenth and this report was unanimously accepted and vote passed as recommended:

*Eben S. Draper, our Agent and beloved fellow member, died April 9, 1914.*

*Your Committee appointed to prepare a fitting record of his services reports as follows:*

*Entering the firm of George Draper & Sons in 1880 as junior member, Eben S. Draper became closely identified with the selling department of the business; he was elected a Director in each of the older companies; on the incorporation of the Draper Company in 1896 he was elected a Director and Agent, which positions he held until his death. As Agent he had entire charge of the sales of the Company.*